The need to reconstruct performance indicators

Nathalie Rey

The need to reconstruct performance indicators*

Nathalie REY, CEPN, Université Paris Nord

Do global indicators such as the number of employees, total assets or the share of financial and non-financial income in total profits really provide a satisfactory basis for evaluating the health of the banking system? How relevant is a ranking of the best banks based on only three criteria: size, return on equity and operating coefficient? Can the same indicators be used to compare establishments with different legal statuses? We believe that an analysis of the evolution of global indicators cannot be anything more than a first step. It must be enriched by an approach in which return and risk are calculated for each establishment on the basis of several different factors. Before presenting this approach, we shall start by describing the indicators currently used to measure bank performances and discussing their relevance.

1. The main indicators

We shall limit our presentation to the indicators of the profitability, efficiency and productivity of the structure of the activity, as other indicators, including the adequacy of equity, are dealt with elsewhere in this book.

The profitability of a bank represents its capacity to make sufficient profits from its operations to enable it to continue and develop its activity durably. The most fashionable indicator at the present time, return on equity (ROE), measures the return on shareholder investment. One shortcoming of this indicator is that the numerator it uses is net profit, which includes non-recurrent and heterogeneous items that may well conceal the real structure of profitability. A second shortcoming is that according to this indicator, high profitability can go hand-in-hand with the structural under-capitalisation of a bank, because high ROE can result from a low level of equity. How can a bank with insufficient equity, and therefore in a precarious position, be deemed to be profitable? Can we say that bank X is more profitable than bank Y when it only has one third of the equity of bank Y? Clearly not. The opposing view of banks, taking an interest in the whole financial structure, favours the return on assets (ROA), which is the ratio of net income to total assets. The problem with ROA is that it places all assets on

*See E. Jeffers, V. Oheix, O. Pastré and N. Rey, “Les restructurations bancaires européennes. Cadre théorique et perspectives nationales”, October 2003, CDC.

the same level, even when they have different risks, and it does not take into account off-balance-sheet activities, which have grown strongly over the last few years.

These two indicators being rather simplistic, because using them is equivalent to considering that profitability can be evaluated by examining net income alone, we can go further by measuring profitability on the basis of the different elements that determine this net income. All banking incomes generated by banking activity, including service and off-balance-sheet activities, constitute the first determinant factor of profitability. The share of each of these incomes in total income and the way they evolve can explain variations in profitability, because the profitability of banks oriented towards retail banking activities is a decreasing function of the fall in interest rates, whereas the profitability of banks whose structure of activity is dominated by market activities decreases in the event of a fall in financial markets. Thus, all the banks in the Euro zone were affected by the fall in interest rates, but faced with this reduction in their profit margins, they responded by developing commissions on the services provided.

Net banking income (NBI), the difference between bank operating revenues and bank operating costs, provides a measurement of the specific contribution of banks to the increase in a country's wealth. By deducting operating and amortisation costs from the sum of NBI plus non-operating income, we obtain the gross operating income (GOI), which indicates a bank's capacity to generate a profit margin after allocation of the cost of resources and operating costs. The concept of risk appears when we deduct net operating provisions from the GOI to obtain the current result before tax. An increase in provisions is the sign of deterioration in the quality of the customers of the banks which, faced with the risk of failure to pay, make an allowance for doubtful accounts representing a certain proportion of their receivables. It can also correspond to a policy of risk coverage introduced by the central banks, obliging banks to make a certain level of provisions. Finally, the net result enables us to evaluate a bank's ability to generate profits from its activities, profits that can either be retained for the support and development of their activity or distributed to shareholders. The level and progress of the net result depend on various elements that need to be analysed and predicted in order to make an accurate judgement of the past and future performances of the banks.

The ability of banks to organise their activity and control their operating costs is measured with the help of efficiency and productivity indicators. The overall operating ratio is the favoured efficiency indicator. This is obtained by dividing total operating costs by the NBI. It indicates the share of income that is absorbed by operating costs; the lower the ratio, the more efficient the bank's organisation is deemed to be. A bank's productivity is measured by means of two synthetic indicators. The first is productivity per employee, obtained by dividing the total average income by the total number of employees; the second is productivity per branch, obtained by dividing the total average income by the total number of branches. Their interpretation is straightforward: the higher the indicator, the higher the productivity of the bank, in the sense that it is capable of generating a high level of income with a low number of employees. The productivity per branch indicator is becoming less relevant, because of the development of banking operations without intermediation. The degree of efficiency and the level of productivity depend on the different activities carried out by the banks: asset management, for example, involves significant investments in computer equipment and software and the entry cost of this activity is much higher than that of retail banking. It is therefore necessary to analyse the different activities pursued by the banks, by means of indicators of the structure of activity.

To compare the share of intermediation-free banking operations with that of more classic intermediation activities, we can examine the following ratios: the ratio of securities and other assets as a percentage of total income and the ratios of loans and deposits as a percentage of total income. Those banks showing a tendency to abandon retail banking activity are characterised by ratios of loans and deposits as a percentage of total income that fall over several years.

We have calculated several indicators for the banking systems of Germany, Spain, France, Italy, the Netherlands and the United Kingdom[1]. Over the period 1990-2001, the number of institutions and employees fell in all six banking sectors. Despite experiencing the heaviest falls, the German banking sector is still characterised by having the largest number of institutions. Between 1990 and 2001, the operating ratios of banks in four of the six sectors fell, the exceptions being British and German banks, which had operating ratios of 73% and nearly 70% respectively in 2001. German banks appear to be distinguished by high levels of

[1] Based on OCDE (2000, 2002), "Bank profitability".

operating costs, but they are also distinguished by the highest levels of productivity per employee. British and Dutch banks achieved the highest ROE, while German banks had the lowest ROE. In 2001, ROE stood at 13.8% for British banks, 11.8% for Dutch banks and only 3.7% for German banks. The ratio of loans and deposits as a percentage of total income fell in all six countries, except, since 1999, for Spanish and French banks. This fall is the result of a positioning strategy focusing on market activities, characterised by an increase in the share of securities as a percentage of total income and an increase in the share of commissions in the NBI. Between 1990 and 2001, securities as a percentage of total income rose from 8.3% to 25.4% for French banks, from 8.8% to 22.2% for British banks and from 11.8% to 24.1% for Dutch banks. Italian banks were the only ones to experience a fall in this share, from 14.3% to 8.4%. The banks of all six countries saw net commissions as a percentage of NBI rise over this period and, in 2001, it was the British banks, with 36.1%, which had the highest level, compared with 18.5% for Italian banks. Spanish banks had the highest level of financial income as a percentage of NBI (72.3% in 2001), while in the other countries this share had fallen since 1990. Finally, it is worth emphasising the rise in provisions as a percentage of the gross operating income in all six countries, the German banks coming in first place with 64.8% in 2001, compared with 25.6% for the Dutch banks.

2. An approach in terms of return and risk

The main weakness of profitability indicators is that they neglect the concept of risks connected with banking activities. To make up for this limitation, one solution would be to take into account the volatility of the different determinants of profitability by calculating, for example, the variations in interest received, operating costs, etc. over several financial years. The idea behind this is that the more volatile the determinants, the higher the uncertainty about the level of profitability. It is easy to see the limits of this approach. How can we measure the direct effect of risks on the profitability of banks? What is the level of volatility of the determinants above which profitability may fall? As far as banks are concerned, risk and profitability appear to be inextricably linked. To evaluate the profitability of a bank presupposes both perfect knowledge of the different factors or sources of risk and the ability to measure them.

We believe that the answer lies in a multifactorial approach to the profitability of banks. Here, the underlying idea is that profitability depends on several risk factors, and the better a bank manages the different sources of risk, the more profitable it will be. So what are the relevant risk factors? The simplest method consists in defining *a priori* the factors most likely to explain profitability. These factors can be divided into two categories, depending on whether they are internal or external to the bank. As far as the latter as concerned, banks generally have very little influence over them.

Internal risk factors can be classified into three groups: factors connected with the legal status of the establishment, factors connected with its activities and organisation and factors resulting from its chosen strategies. For private banks, the liquidity of shares constitutes a factor of risk. *A priori*, the more liquid the shares, the less risky they are. For the other establishments, the level of equity constitutes a factor of risk, a lack of stable resources representing a brake on the development of the activity and consequently on the growth of profitability. Whatever the status of the establishments, they must have a sufficient level of equity and, in particular, respect the prudential ratios that can be considered as risk factors in the event of weakness. The second group is composed of risk factors connected with the quality of past and future profits (the evolution and perspectives of market share, the hierarchy and stability of the main sources of revenue), the quality of assets (the volume of loans made by type of customer) and the quality of the organisation (the levels of operating costs, the geographical distribution of the number of subsidiaries). The last group comprises risk factors that take into account the clarity and coherence of banks' strategies, and the respect of commitments by managers; here we find not only indicators such as the growth rate in profits or market share, but also rating indicators expressing a certain external view of the bank's reputation.

As for external risk factors, a distinction can be made between macroeconomic factors and factors specific to the banking sector. Among the macroeconomic factors we can include interest rate levels, the rate of economic growth, the evolution and structure of household assets, the rates of return on financial markets and bankruptcy rates in the industry. Among the specific factors, the market shares of competitors in the different banking trades, the evolution in the rates of activity of the banking sector and in its stock indices, and new regulations are of particular note.

These different risk factors, whether they are internal or external to banks, imply a certain level of profitability. According to financial theory, the return on a risky asset is equal to the return on a risk-free asset plus a risk premium calculated on the basis of the risk factors. We can then calculate a bank's return on the basis of a risk-free asset and a risk premium. There is a sophisticated method for calculating this premium, consisting in the construction a multifactorial model. There is also a simpler method, consisting in attributing a value to each factor ranging from the lowest value for the least risky factor to the highest value for the most risky. The premium is then obtained by calculating the weighted total of these different values.

Using a return and risk-related approach to the evaluation of bank performances, we can take directly into account the concept of risk that is central to banking activities. However, this approach requires the gathering of large amount of information and the performance of numerous complicated calculations, which explains why it remains relatively unpopular compared with traditional indicators. Obviously, given the choice between a simplistic indicator like the ROE, the calculation of which only requires two items of accounting data, and a profitability indicator requiring the gathering and processing of numerous quantitative and qualitative elements of information, the former is likely to be preferred. Now, such a choice can lead to errors of judgement, such as considering as profitable a bank with insufficient equity or with a net result concealing a problem in the structure of activity, especially a strong dependence on the progress of financial markets. We should already be asking ourselves how relevant the traditional indicators, including the famous ROE, will be when the new accounting norms come into force, norms of which one of the consequences will be an increase in the volatility of equity and net results. It seems clear that the focus needs to be shifted onto other indicators, especially those enabling an evaluation of profitability on the basis of the different internal and external risk factors. The chief limitation of this approach lies in the need to gather a sizeable quantity of information in order to measure the different risk factors. Only greater financial transparency and a wider accessibility to information can favour the use of indicators based on risk and profitability. Will the Basle II Accord and its "market discipline" succeed in providing greater access to information, or will the banks simply use it as a tool for the circulation of technical information, with the sole objective of showing the market how skilful they are at introducing sophisticated models of risk monitoring without, fundamentally, adding anything of substance to our knowledge of their profitability?